

What is claimed is:

1. A character recognition method for recognizing characters entered in a document or the like including preprint information, comprising the steps of:

dividing an image in an area where the characters to be recognized are present into line segments individually,

wherein the image is obtained by reading said preprint information and the entry characters;

creating a recognition image by changing a combination of a plurality of line segments divided;

memorizing a recognition result with reliability by making the character recognition for said created recognition image; and

outputting the recognition result having a greatest reliability by making the character recognition for all the combinations while changing said combination of line segments successively.

2. The character recognition method according to claim 1, wherein the division into said line segments comprises the steps of:

thinning all the line segments in the image within said recognition area;

extracting an endpoint and an intersection from said line segments;

dividing said thinned image into line segments from said endpoint to said intersection, said endpoint to said endpoint, or said intersection to said intersection,

wherein each of said line segments is extended to the original line width by referring to said input original image.

3. The character recognition method according to claim 1, wherein when the combination of said plurality of divided line segments is

changed, it is checked whether or not there is connectivity in said combination, in which if there is no connectivity, no recognition is made for said combination, and only if there is connectivity, a recognition image for said combination is created to make the character recognition.

4. The character recognition method according to claim 1, further comprising the step of removing beforehand the line segments with small line width from among the line segments contained in the image within said recognition area.

5. A character recognition program, comprising the functions of:  
dividing an image in an area where characters to be recognized are present into line segments individually,

wherein the image is obtained by reading the characters entered in a document or the like including preprint information;

creating a recognition image by changing a combination of a plurality of line segments divided;

memorizing a recognition result with a reliability by making character recognition for said created recognition image; and

outputting the recognition result having a greatest reliability by making the character recognition for all the combinations while changing said combination of line segments successively.

6. A computer readable recording medium storing a character recognition program, comprising the functions of:

dividing an image in an area where characters to be recognized are present into line segments individually,

wherein the image is obtained by reading the characters entered in the document or the like including preprint information;

creating a recognition image by changing a combination of said plurality of line segments divided;

memorizing a recognition result with reliability by making the character recognition for said created recognition image; and

outputting the recognition result having a greatest reliability by making the character recognition for all the combinations while changing said combination of line segments successively.

7. The character recognition method according to claim 1, wherein when said character recognition result is a character registered as having a high possibility of false recognition for other character pattern, said character recognition result is exchanged by said other character, if there is any recognition candidate obtained for said other character in a process of performing the character recognition while changing said combination of line segments.

8. The character recognition method according to claim 7, wherein said character recognition result is exchanged only if the reliability of character recognition for said other character is greater than or equal to a preset fixed value.

9. The character recognition method according to claim 7, wherein said character recognition result is exchanged only if any line segments of said character recognition result are included in the line segments constituting a character recognition candidate of said other character.

10. The character recognition method according to claim 7, wherein said character recognition result is exchanged only if the reliability of character recognition for said other character is greater than or equal to a preset fixed value, and any line segments of said character

recognition result are included in the line segments constituting a character recognition candidate of said other character.

11. A character recognition program, comprising the functions of:  
dividing an image in an area where characters to be recognized are present into line segments individually,

wherein the image is obtained by reading the characters entered in the document or the like including preprint information;

creating a recognition image by changing a combination of said plurality of line segments divided;

memorizing a recognition result with reliability by making the character recognition for said created recognition image; and

outputting the recognition result having a greatest reliability by making the character recognition for all the combinations while changing said combination of line segments successively,

wherein when said output character recognition result is a character registered as having a high possibility of false recognition for other character pattern, said character recognition result is exchanged by said other character, if there is a recognition candidate obtained for said other character in a process of performing the character recognition.

12. A computer readable recording medium storing a program, comprising the functions of:

dividing an image in an area where characters to be recognized are present into line segments individually,

wherein the image is obtained by reading the characters entered in the document or the like including preprint information;

creating a recognition image by changing a combination of said plurality of line segments divided;

memorizing a recognition result with reliability by making the character recognition for said created recognition image; and

outputting the recognition result having a greatest reliability by making the character recognition for all the combinations while changing said combination of line segments successively,

wherein when said output character recognition result is a character registered as having a high possibility of false recognition for other character pattern, said character recognition result is exchanged by said other character, if there is a recognition candidate obtained for said other character in a process of performing the character recognition.

13. The character recognition method according to claim 1, wherein in the case where a region for entering the character to be recognized in the image within the recognition area is predetermined, the line segments within the region for entering the character are necessarily included, when the combination of plural line segments divided is changed.

14. The character recognition method according to claim 1, wherein when the image within the recognition area is divided into line segments individually, the combination of line segments is implemented without including the line segment with the endpoint at one end and having short length in the combination.

15. The character recognition method according to claim 1, wherein only if the size of a graphic created by the combination of plural divided line segments is within a predetermined range, the character recognition is performed, while if it is outside the predetermined range, the character recognition is omitted.